

CLAIMS:

1. A control device for operation by a user for controlling a display of a computer system for use with a video game, comprising:

a coordinate control unit adapted to be handled by the user in order to generate input information related to a vertical and a horizontal tilt of the control device;

a game play control unit adapted to be handled by the user in order to generate game play input information; and

a controller adapted to process said input information from the coordinate control unit to provide point of view information of the user in the video game to the computer system, and adapted to process said input information from the game play control unit in order to provide game information representative of at least positional movement of the user in the video game to the computer system , wherein

the control device has a shape substantially similar to a firearm, said shape comprising:

a central body,

a handgrip extending downward from a rear section of the central body; and

a barrel extending longitudinally forward from the central body.

2 . The control device of claim 1 , wherein the coordinate control unit further comprises:

a y-axis sensor adapted to input information regarding a tilt of the barrel of the control device in a vertical direction; and

an x-axis sensor adapted to input information regarding a tilt of the barrel of the control device in a horizontal direction.

3 . The control device of claim 2 , wherein the y-axis sensor further comprises:

a horizontal shaft attached to a side of the barrel that rotates as the barrel is tilted upward and downward;

a first optical disk attached to the horizontal shaft such that the optical disk rotates with the horizontal shaft; and

at least one optical encoder adapted to correlate rotation of the optical disk to vertical tilt of the barrel to provide information indicating a desired vertical point of view of a user in the video game.

4 . The control device of claim 2 , wherein the x-axis sensor further comprises: a vertical shaft connected to the y-axis sensor such that the vertical shaft rotates as the barrel is tilted left and right; a second optical encoder disk attached to the vertical shaft such that the second optical disk rotates with the vertical shaft; and at least one second optical encoder adapted to correlate the rotation of the second optical disk to a horizontal tilt of the barrel to provide information indicating a desired horizontal point of view of a user in the video game.

5 . The control device of claim 1, wherein the coordinate control unit further comprises: at least one gyroscope adapted to provide input information regarding the vertical and horizontal tilt of the control device in order to provide information regarding a desired vertical and horizontal point of view of the user in the video game.

6 . The control device of claim 1, wherein the coordinate control unit further comprises: at least one gyroscope adapted to provide information regarding the vertical and horizontal tilt of the control device in order to provide information regarding a desired vertical and horizontal position of a cursor on the display of the computer system.

7. The control device of claim 1 , further including a mouse button-type control unit adapted to be operated by the user in order to generate computer mouse button-type input information, wherein the mouse button-type control unit comprises: a wheel adapted to provide information to scroll up or down on the display; a left button adapted to provide information regarding selections of the user; and a right button adapted to provide information regarding other selections of the user.

8 . The control device of claim 7 , further including a trigger extending downward from the central body in front of at least a portion of the handgrip; and wherein the wheel, the

left button and the right button are mounted on a side of the central body of the control device such that positioning a finger of the user proximate to the trigger operates the wheel, left button and right button.

9 . The control device of claim 1 , wherein the game play control unit comprises: a directional controller adapted to generate input information regarding longitudinal and lateral movement in space; a plurality of buttons adapted to provide information regarding a plurality of actions performed on the display, the plurality of actions including two or more of running, crouching, jumping and special actions; and a coordinate activation button adapted to selectively enable and disable input of information from the coordinate control unit to the computer system.

10 . The control device of claim 9 , wherein the plurality of buttons are positioned on the handgrip of the control device such that the plurality of buttons are operable by fingers of the hand of the user gripping the handgrip .

11 . The control device of claim 10 , further comprising: a foregrip , extending down from the barrel of the weapon, wherein the directional controller is positioned on the foregrip and is operable by a thumb and fingers of a another hand of the user gripping the foregrip.

12 . The control device of claim 10 , wherein the directional controller is positioned on the barrel of the control device.

13 . The control device of claim 1, further including a trigger extending downward from the central body in front of at least a portion of the handgrip; and wherein the game play control unit further comprises a shoot button mounted on the trigger of the control device.

14 . The control device of claim 1 , further comprising a removable shoulder stock extending behind the central body of the control device and adapted to steady the control device against a shoulder of the user.

15 . The control device of claim 1, further comprising a display unit mounted on the control device to provide additional image information to a user of the control device.

16 . The control device of claim 1, further comprising a feedback unit adapted to provide tactile feedback to a user of the control device.

17. A method for allowing a user to control a display of a computer system, comprising:

providing a display control unit with a shape substantially similar to a firearm, the display control unit comprising a central body, a handgrip extending downward from a rear section of the central body, and a foregrip or barrel extending longitudinally forward from the central body;

receiving information from a coordinate control unit portion of the display control unit that is related to a vertical and a horizontal tilt of the display control unit and is representative of point of view information of the user in the video game;

receiving information from a game play control unit portion of the display control unit that is representative of at least positional movement of the user in the video game; and

providing game information for controlling the display of the computer system based on information received from the coordinate control unit and providing game information for controlling the display of the computer system based on information received from the game play control unit.

18. The method of claim 17, wherein:

the display control unit is adapted to be grasped by two hands of the user, where:

the fingers or thumb of one hand , positioned on the foregrip or barrel, operate one or more buttons adapted to provide input information regarding longitudinal and lateral movement of the user on the display in space, while the fingers and thumb of the other hand, positioned on the handgrip, operate one or more buttons adapted to provide input information regarding a plurality of actions performed by the user on the display, the plurality of actions including one or more of running, crouching, jumping and selecting weapons, wherein both hands, in addition to providing the above-noted operation, provide stability to the device with respect to the vertical and horizontal tilt of the unit, as well as reducing fatigue in wielding the unit in a manner similar to a real firearm.

19. The method of claim 19, wherein the step of receiving information related to the vertical and horizontal tilt of the control device comprises: receiving information regarding a tilt of the barrel relative to a centered vertical position of the control device from a y-axis sensor; and receiving information regarding a tilt of the barrel relative to a centered horizontal position from an x-axis sensor.